

Crossing conceptual barriers: A methodological approach in a language-challenged SMME environment

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Abstract

Internationally there is general consensus about the acknowledgement of entrepreneurs as engines of growth and development, even more so in developing countries. Entrepreneurs inspire a culture of entrepreneurial development and innovation and they create businesses by contributing significantly to employment, gross domestic product (GDP) and developing the economy.

Globally the need for more support to develop entrepreneurs is accepted. The body of research demonstrates that “whether in emerging or developed markets, SMEs that have embraced advanced, data-driven mobile capabilities have fared better than their peers” and that progress is achieved only when the focus is on meaningful use for a specific purpose and in a specific community or business setting. However, for the majority of South African micro-entrepreneurs, such technology is available only on their mobile devices.

This paper describes an intervention process with micro-enterprise entrepreneurs who participated in a research programme aimed at 1) understanding the current usage of technology in support of productivity and business growth, 2) the challenges they experienced in this regard, and 3) the identification of potential interventions to support them in utilising the affordances of mobile technology. The project focussed on three areas in an integrated manner, namely business skills, digital skills (mobile technology) and personal skills (in a secondary context).

In terms of business and digital comprehension and terminology, a significant conceptual gap arose between the research team and participants; consequently, the Cognitive Engagement Board (CEB) in the form of a physical representation of the business value chain and applicable digital technologies was specifically developed to bridge the conceptual barriers amongst participants. The tool assesses entrepreneurs’ current business practices and skills to develop a systemic approach to enhance mobile technology usage and to improve their business operations.

The project focussed on three areas in an integrated manner, namely business skills, digital skills (mobile technology) and personal skills (in a secondary context). In facilitating the contextual understanding by micro-entrepreneurs the CEB application proved to be beneficial and practical, which is essential for the development of business and digital skills, and for the selection of relevant digital tools (applications) for business improvement and growth. It furthermore contributes towards peer learning and the opening up of new opportunities beyond the local market.

Keywords

Digital competence, conceptual barriers, ethnography, business acumen, methodology, skills intervention

1. Introduction

In this study, the project reported on is a geographically-centred study to assess the usage of information and community technology as a tool to promote growth and sustainability in micro-enterprises. For the purpose of this study, the target group was defined as micro (less than 5 employees) and very small enterprises (fewer than 10 employees) across sectors.

Where mainstream enterprises have the resources, capabilities and means of access to the introduction and understanding, as well as the application of information and communication technology to benefit their enterprises through training, very little evidence of such processes of intervention is evident for micro-enterprises in townships; however, these micro enterprises are not immune to the impact of technology and face exactly the same barriers and challenges as their equivalents in the formal sector.

2. Purpose of this paper

The purpose of this paper is to describe an intervention process in which micro-enterprise entrepreneurs participated in a research process aimed at understanding their current usage of information and communication technologies (ICT) in support of productivity and business growth.

More specifically, the study sought answers to three specific questions, namely:

1. How entrepreneurs of micro and small enterprises in Khayelitsha use mobile technology in their enterprises?
2. Regarding the use and unlocking of mobile technology in their enterprises, what do these entrepreneurs perceive as opportunities and challenges? and,
3. What kind of initiatives and interventions can be developed to assist entrepreneurs in utilising mobile technologies as business enablers?

As an emerging economy, the project premised the standpoint that South Africa follows the African trajectory of “mobile first” and often mobile only; therefore, the focus of the study is on the utilisation of mobile technology for business purposes.

The study was defined as exploratory in nature and approach, consisting of three phases, namely a pilot phase for the testing of the approach and data gathering tools, followed by the main study involving 45 micro enterprises and concluded by a feedback session three weeks after the research intervention. A questionnaire was developed for application during individual interviews for testing with 11 SMEs as part of the pilot study.

However, during the interviewing process it clearly transpired that the business and technology concepts and terminology were unfamiliar to participants and had limited relevance to their contexts and life-worlds. For example, language challenges and conceptual uncertainty and obscurity obstructed the intended data gathering process.

The intended original research method (questionnaires) was consequently adjusted according to the principles of rapid/design ethnography whereby a training intervention and visual engagement board (the Cognitive Engagement Board) were designed and introduced as research gathering tools in order to bridge the conceptual and language barriers in this language-challenged environment. Subsequent to the described intention above, the process of extracting the relevant data created an unintended consequence.

3. Background

In a recent study and first survey of its kind on the digital readiness amongst 85 listed and leading large enterprises in South Africa found that “*practices to increase the digital readiness ... are not well-entrenched.*” (Craffert, *et al.* 2014:4). No similar study on the digital readiness for small, medium and micro-enterprises (SMMEs) could be found.

In a developing country context, the informal sector (i.e. grey economy, unrecorded economy, informal economy, and shadow economy) constitutes a significant contribution to the well-being of those economies

(GDRC 2017; Beegle, Benjamin, Recanatini, Santini 2014; Chambwera, MacGregor, Baker 2011; Perry, *et al.* 2007; ILO 1972).

As the second largest township in South Africa, Khayelitsha is situated on 35km from Cape Town. Khayelitsha (meaning New Home) rapidly grew as an informal settlement from numbers of migrants from the Eastern Cape to a population of about 800 000 (CTC 2013). The majority of its residents are rural to urban migrants with approximately 91% as Black African. Poverty and unemployment levels are high, but despite its poverty levels, the township boasts a vibrant informal business sector. This township has a small but growing middle class with a growing number of entrepreneurs in the township, yet from a very small economic base consisting of about 85 000 small, medium and micro-enterprises (KSBP 2014).

4. Literature review

Internationally there is general consensus about the notion that entrepreneurs are acknowledged as engines of growth and development, even more so in developing countries. Not only do entrepreneurs inspire a culture of entrepreneurial development and innovation, but they also create businesses by contributing significantly to employment, gross domestic product (GDP) and developing the economy (Bezzera, *et al.* 2015:16).

The Networked Readiness Index (NRI) of the World Economic Forum (Baller, *et al.* 2016) is a tool that assesses factors, policies and institutions that enable a country to fully leverage information and communication technologies (ICTs) for increased competitiveness and well-being. The NRI tools consist of four sub-indices that measure 10 subsets, which compare participating countries' readiness to exploit the opportunities offered by ICT and to drive innovation.

The WEF Report (Baller, *et al.* 2016) states that "*... despite an overall mixed performance, South Africa makes large strides in the overall NRI rankings to 65th, almost entirely driven by improvements in infrastructure and affordability. South Africa's digital transformation is mostly business driven, as the country notably performs best in business usage (32nd), followed by individual usage (77th), followed by government usage (105th).*"

Based on the severely limited availability of information (Claassen 2016; Steyn, Steyn and De Villiers in InSITE 2015; Marnewick 2014) on the e-readiness of SMMEs (including their current practices in terms of the deployment of ICTs as a business enabler), a research project was designed and executed in the Khayelitsha township

Two elements of underpinning the study are being addressed in the literature review, namely the descriptive statistics to contextualise the cohort on which the study was undertaken and, secondly, the theoretical support for the format of the study, as it evolved.

The 2016 Global Entrepreneurship Monitor Report (GEM 2016) and all its predecessors emphasise the need for more support to develop entrepreneurs. This emphasis is equally true for a developing country, such as South Africa, which presents a disproportionately large micro-enterprise sector of able entrepreneurs from severely disadvantaged socio-economic and educational backgrounds who largely serve their local communities in a variety of forms of general trade (World Bank 2014). Given the opportunity, these entrepreneurs present the potential to transform their micro-enterprises from survivalist modes to profit-generating modes of action.

In total there are 2 251 821 small, medium and micro-enterprises (SMMEs) in South Africa of which 667 433 are classified as small (and formal) and 1 497 860 are classified as micro-enterprises (most of which are informal). SMMEs account for approximately 47% of total paid employment (of which micro enterprises with 16%) and these enterprises contribute approximately 42% to the country's GDP (BER 2016).

Given the current economic realities in South Africa with a stagnating economy in which large enterprises become negative creators of employment opportunities, it is argued that most opportunities will have to come from the entrepreneurially inclined SMME sector (Herrington and Kew 2016). News24 (2016) states that for the national objective of creating 5 million new jobs, the country probably needs to create and empower 1 million businesses (small, micro and survivalist).

The literature on micro enterprises describes a number hampering factors - in the main a lack of access to finance, a lack of appropriate skills and poor profitability are at the top of the list of reasons why small businesses fail (BER 2016; GEM 2016; World Bank 2014; Chambwera, MacGregor and Baker 2011). The unit of analysis (i.e. the micro-entrepreneur cohort of this study) comply with the general definition.

As a branch of anthropology, ethnography is a tool used by social scientists in anthropology and sociology in the research often relies on a team effort to describe the art and science of a group or a culture (Genzuck 2003). However, it is also acknowledged that ethnographic studies occur across many disciplines in almost "... any human area" and that it taps local points of view, but more significantly that it is "... a means of identifying significant categories of human experience up close and personal" (INSITU 2016). In studies of this nature in which ethnography is linked to design, Genzuck (2003), Anderson (2003) and Blomberg (1993) refer to this element as the concept of "design ethnography."

However, in a further challenge on the rapidity and time constraints of industry-based design projects, Richard and Gheerawo (2010) and Millen (2000) have implemented ethnographic methods as "rapid ethnography" which designers use to gain insight into the needs of a fast-paced business environment. While Aldersey-Williams, Bound and Coleman (1999) and Norman (1998) postulate that rapid ethnography is a "quick and dirty study" in which the basic principles are held onto, Nielsen (1994), Baines and Cunningham (2013), and Norman (2016) argue that through rapid ethnography "designers can adapt a range of research methods to commercial needs by acceptably trading scientific accuracy for speed of results."

The literature review on rapid ethnography confirmed the approach used by the researchers of this project when it transpired that the technology and the concomitant terminology used in the interviewing process were foreign and unfamiliar to the participants and, hence, the necessity to adjust the methodology to utilise the benefits of rapid ethnography in order to capture information.

5. Methods, structure and approach

The process of crossing conceptual barriers in a language challenged micro-enterprise environment followed the proven research method of three phases, namely a pilot study, the main study and a feedback or reflection session three weeks after the research intervention.

For the purposes of the pilot study an original and basic questionnaire was constructed to extract data of both a qualitative and quantitative nature on, for example, biographic, demographic and business information, average data cost, data usage patterns, and mobile applications for business purposes.

5.1 Pilot Study

In the pilot study 11 micro-entrepreneurs participated in a 2-hour process of data gathering during which the participants were requested to complete the questionnaires individually. The research team assisted the participants in completing of questionnaires by clarifying the questions in English and in the local vernacular. On completion of the individual questionnaires, participants were requested to provide feedback within the group context. At the same time two observers noted areas of improvement of the research instrument and process, to be included in the main study (e.g. clarity of questions, intention, order). As originally planned, a quid pro quo approach was applied when the data collection part of the pilot study was followed by a short training session on the concept of *mobile for business* as an expression of the research team's appreciation towards the participants

It became patently clear that the envisaged research approach of data extraction by means of the administering of individual questionnaires was inappropriate to the setting and altogether ineffective in extracting the required research information. Extensive clarifications were required by almost all of the participants on many of the business and technological concepts. Clarifications developed into mini information sharing components.

After the training session completed and much to the surprise of the research team, the participants

responded spontaneously by continuing with the group discussion which offered a rich set of data to the previously posed research questions. Consequently, the shift towards a group discussion and the inclusion of a training intervention as part of the process (though totally unintended) contributed towards the establishment of a safe environment in which participants could express themselves eloquently about the research topic at hand.

5.2 Main study

The outcomes and the learnings during the pilot study were critically analysed in preparation for the main study. It was clear that the questionnaire in its original format was not a viable option for extracting information and that a different approach would be required for establishing a common language and framework for information sharing and exchange.

The researchers realised that the training intervention, offered as token of appreciation after completion of the research process, contributed significantly towards the exchange of relevant research information between research team and participants. The unpacking, sharing and discussion of business activities from the micro-enterprise perspective (as opposed to the perspective of the researcher) contributed towards the co-creation of a shared mental model, or cognitive framework, that facilitated mutual understanding and insight, which offered a solid base for the extraction of a rich set of qualitative data.

Therefore, based on the outcome of the pilot study, the research approach and method for the main study was redefined as a design ethnographic study that facilitated the inclusion of "training interventions" as part of the research process and one which made provision for individual as well as group responses.

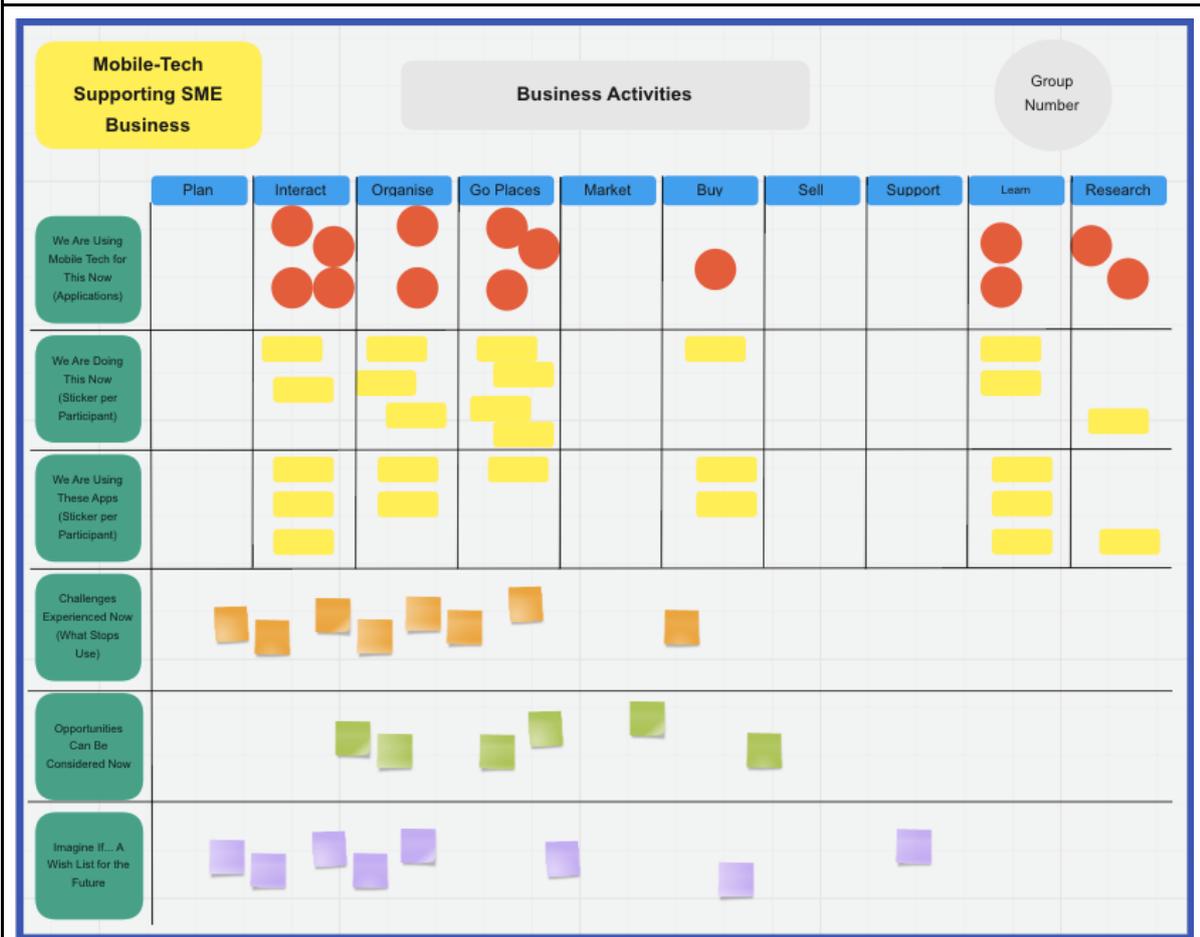
An unintended consequence of the redefinition of the research methodology was the design of a visual framework (or board) as research collection tool, representing the co-designed mental model or cognitive framework resulting from the pilot phase. Hence, the "cognitive engagement board" (CEB) is a tool specifically developed as a research gathering and training intervention method or tool aimed at bridging conceptual and language barriers between researchers and small enterprises, in a resource constrained micro-enterprise environment (see Table 1).

The concept of the Cognitive Engagement Board is based on and largely inspired by the work of Krauskopf, Zahn, Hesse and Pea (2014:230-243) and Hesse (2015) who propagated mental models of technology affordances, as well as the utilisation of touch screens (interactive electronic boards) in facilitating group conversation.

The CEB provides a structured, yet fairly open visual "work space" where researchers and participants can visually share, explain and discuss their respective inputs as part of the overall design ethnography method. The CEB furthermore facilitates the capturing of individual responses (mostly quantitative) as it relates to specific research questions, as well as the outcome of group discussions (mostly qualitative in nature).

Forty-five (45) micro-entrepreneurs from Khayelitsha, representing various business sectors volunteered to participate in the main study. Given the depth of the discussion as experienced during the pilot phase, it seemed appropriate to limit participation per intervention to 15 entrepreneurs. The successful implementation of the CEB depended to a large extent on the establishment of an intimate and safe space where participants felt comfortable in engaging and sharing information. Therefore, the data-gathering process was structured into three one-day sessions with a maximum of 15 participants per day. For each of the interventions, five participants were grouped around one Cognitive Engagement Board resulting in the completion of three CEBs per session.

Table 1: Cognitive Engagement Board



Source: Hamilton, Craffert and Sikhota (2016).

The first 3 hours of the intervention were utilised for data gathering during which the researchers sought answers to three main questions, namely, how micro and small entrepreneurs use mobile technology in their enterprises, what they perceive as opportunities and challenges regarding the use and unlocking of mobile technology in their enterprises and, finally, what kind of interventions can be developed to assist entrepreneurs in utilising technology as business enablers.

Replicating the methodology of the pilot study, a *quid pro quo* approach was applied whereby participants were invited to a free training intervention after the data gathering phase. The purpose of the training was to address those core challenges identified by the participating micro-entrepreneurs in their use of mobile technology for business enablement. All 45 micro-entrepreneurs participated in the afternoon training interventions.

5.3 Feedback session

Three weeks after the main study, respondents were invited to a feedback workshop to share their stories, potential learnings resulting from the process, as well as to comment on the particular research process. The topics explored covered general feedback on and discussion of the particular research process, such as whether the researchers succeeded in eliciting and capturing the business realities of participants and the extent to which the process facilitated the free exchange of information.

The discussion furthermore focused on the potential value derived from their participation in the intervention, potential changes in the way they think about their businesses (as it related to the intervention), potential

change in behaviour or practices subsequent to their participation in the intervention. Participation in the feedback sessions was voluntary and a total of 20 micro-entrepreneurs contributed to these group sessions.

6. Results, discussion and outcomes

The method followed by the research team presented us with two outcomes; firstly, the researchers extracted research results in the form of a rich set of qualitative data and, secondly, for the micro-entrepreneurs who participated in this study the results had a positive impact, in the sense that their participation in a resource-constrained environment proved to be beneficial to them beyond their expectations.

From the outset of this research project, the researchers presented three challenges to which we sought clarity, namely, how micro and small entrepreneurs use mobile technology in their enterprises, what they perceive as opportunities and challenges regarding the use and unlocking of mobile technology in their enterprises and, finally, what kind of interventions can be developed to assist entrepreneurs in utilising technology as business enablers.

The results for each the main themes (Hamilton, *et al.*, 2016) are briefly presented and discussed:

6.1 Participants' use of mobile technology in their enterprises:

- With respect to the ten business activity areas portrayed on the Cognitive Engagement Board, there is not necessarily alignment between what the group considered to be important business activities and where they apply technology in support of these activities.
- Standard applications normally used for social interaction, seems to be more prevalent than those requiring an enhanced understanding of the online ecosystem. Lack of familiarity regarding licensing and usage potentially hinder the adoption of non-standard applications.
- A few participants purchased applications in support of their businesses, as online purchases require formal banking services and online payment facilities. Participants expressed concern about fraud and online payment services and highlighted this restriction due to not being part of the formal banking sector.
- An inhibitor of adoptions seems to be the complexity of data networking, and the inability to access well-performing, stable and affordable network services in close proximity to where they conduct their businesses.
- The cost of data and applications remain a key contributor towards a conservative adoption of mobile technology for business purposes. Risk-taking and exploration seem to happen where free services are made available.

6.2 Participants' views of challenges and opportunities regarding the use and unlocking of mobile technology in their enterprises:

- The limited awareness and understanding of the scope and value of mobile technology, as well as the lack of skills to apply mobile technology within business context, appeared to be the most critical challenge.
- Risks of physical and online theft, fraud and loss of devices due to their particular precarious social and economic conditions seem to be a significant challenge.
- The potential of wasting time to explore the potential value of technology and applications for business purposes, reduce their willingness to participate in this space.
- The affordability of devices, data service cost, uncertainty regarding data consumption of services as well as limited exposure to online payment and banking services were identified as significant challenges.
- "Time is money" - time spent on exploring technology for potential value in their enterprises, as well as the fear of wasting time (and money) on distracting applications and services, seemed to be significant realities which pose hindrances in adopting valuable technology support.

6.3 Initiatives and interventions to assist micro-entrepreneurs in utilising technology as a business enabler:

- Integrated training and/or educational interventions with a focus on business, technology and people as part of the process were highlighted as necessary and critical interventions to assist micro-entrepreneurs. An integrated approach with sensitivity towards their particular socio-economic

context and conditions seemed to be the key differentiator as opposed to simply training in digital tools.

- Facilitating access to mentors and coaches for guidance, moral support and advice to assist them in their progression towards digital maturity.
- Providing information on the successful local South African SMMEs using technology to increase the likelihood of success of their businesses ... *“seeing someone on your level using technology is inspiring”*.
- The absence of real, relevant and visible role models to micro-entrepreneurs, contribute towards a perception that success is in the reach of “other” people only – the presence of successful South African role models can provide a “pull” factor.
- A plea of not forsaking the older generation who requires a different kind of guidance and nudging to develop digital skills and increase their usage.
- Reversing the scepticism about the real value of technology as a "potential waste of time" with significant cost implications, to a situation of embracing digital tools as items that are cost effective, time-saving, productive and value-adding.

6.4 Research methodology implications:

- In an environmental context of substantial conceptual and language barriers, the ethnographic approach is more appropriate than the administering a questionnaire - it offers the opportunity to bridge these gaps through the provisioning of rich information from lived experiences that assist in creating insight and understanding into the “other” worlds.
- The design ethnography provided the principles for the development of the CEB that facilitated the co-creation of a shared conceptual context - the participants utilised the visual framework to share the nature and essence of their businesses with the research team and in response, the research team “translated” their business activities into the structured framework corresponding with the research questions.
- The CEB facilitated the process whereby the research conversation progressed from the tangible, the known and the familiar to the more unknown (i.e. mobile technology etc.) in a non-threatening manner.
- Working on the fundamentals of a relationship of trust within the community contributed towards establishing of rapport and flow of information (access point into the community).
- Research into the technology usage of micro entrepreneurs needs to be approached from an integrated people-technology-business perspective, as opposed to independent components.

7. Lessons learned

In all, this model represents a replicable approach, one that is aligned to SMME needs in a context that these micro-entrepreneurs comprehend. Awareness-building, education and training, and support are needed to create a context and an environment for enhancing the application of technology and the exploitation by SMMEs of data services in a manner that is aligned to their specific business needs.

Approaching micro-entrepreneurs in their world with a non-threatening engagement stimulated networking and learning for participants and thereby creating a bond of trust between researchers and participants.

Micro-entrepreneurs constantly live and work under precarious socio-economic conditions in which they and their customers have to deal with daily challenges that are typically associated of what might be considered a “normal” business environment. While technology can positively affect SMMEs and the lives of individuals, these particular socio-economic conditions present challenges that any technology solution and service developer must be cognisant of.

Under conditions where the business reality of the micro entrepreneurs is vastly different from those of their counterparts in the formal economy, questionnaires (in their traditional research context) are not as effective for data collection; consequently, researchers need to utilise a different methodologies of harnessing information with due recognition to their resource-constrained environment with a concomitant sensitivity for their particular circumstances. In this instance, design ethnography provided us with the latitude to capture a rich set of data.

The CEB provided us with a visual representation of the co-created cognitive framework, enabling the research team to work from the business reality of the micro entrepreneurs.

Micro-entrepreneurs are not immune to the impact of technology as they face exactly the same barriers and challenges as their counterparts in the formal economy; they too need to adjust and adapt to the challenges, as well as harnessing the opportunities provided by the digital economy. A key learning component for researchers is to remain cognisant of managing the concepts of businesses, technology usage and personal skills in an integrated manner during their investigative processes.

8. Conclusions

Through the intervention explained in this paper, the researchers aimed at exploring micro-entrepreneurs' current usage of mobile technology for business enablement and growth, the challenges they experience in using technology and potential opportunities they identify in view of developing interventions to support them in capitalising on the potential business benefits of mobile technology.

Participants actively engaged in sessions of extracting data, study, training and feedback. Information shared and perceptions recorded enabled the establishing of a sound foundation benefitting evaluation and input to the ideation processes.

Linking technology to business activity areas by means of the "Cognitive Engagement Board" was a key component for the success of this research process; for example, participants preferred this method to a model where technology is normally discussed in isolation. In other words, business and technology are not mutually exclusive elements. By focusing on their businesses first and then progressing to business principles (and not on the technology as such) enabled participants in sharing their realities in a more integrated manner.

The methodology of applying an anthropological approach assisted the research team in extracting a rich set of data by means of ethnography. The conceptual and cognitive barriers, combined with the precarious conditions of participants (micro-entrepreneurs), required an innovative approach of design and rapid ethnography to create a shared framework between researchers and participants. This design approach contributed towards the research findings, as well as value creation for participants.

There is perceived need and a willingness among entrepreneurs to learn. We can make a substantial difference by enabling SMMEs to make informed decisions and thereby allow them to focus on business-related applications of technology.

In the case of our research study in a fairly precarious resource-constrained environment, we experienced that rapid or design ethnography is an ideal tool to extract information and to add value for the participants (micro-enterprises).

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